

-6-

ONS00181
09/802,726REMARKS

This application has been carefully reviewed in light of the office action mailed April 23, 2003. Applicants respectfully request early and favorable acceptance of this application.

Restriction Requirement

The office action restricts claims 31-38 for pertaining to a separate and distinct species from other pending claims. In particular, claims 31-38 are alleged to pertain to a trench having a charge balancing region along its sidewall, whereas claim 1 purportedly has "balancing densities" rather than a "charge balancing region". Applicants respectfully traverse the restriction requirement.

Restriction is never mandatory, but rather lies within the discretion of the Director, who is empowered by 35 U.S.C. § 121 to require restriction if two or more "independent and distinct" inventions are claimed. The office action alleges that claims 31-38 are directed to an invention that is "independent or distinct" from the one previously claimed. Therefore, the requirement for restriction is improper.

Moreover, applicant traverses the restriction requirement because the "region for balancing a charge density" is not independent and distinct from a "charge balancing region". For example, on page 13, lines 29-32 of the specification, region 755 is disclosed as having a

-7-

ONS00181
09/802,726

charge density that balances the charge density of portion 713 of semiconductor layer 110. On page 20, lines 5-7 of the specification, region 755 is further disclosed as an embodiment of a charge balancing layer. Since "region for balancing a charge density" and "charge balancing region" read on region 755, the claims must be generic. Claims 1 and 31 are merely recited using different language and perhaps a different scope as required by the Doctrine of Claim Differentiation.

Furthermore, region 755 is shown and described in at least the disclosed embodiments of figures 9-10 and 12, and its reference number inadvertently was omitted from figure 11. Therefore, claims 1 and 31 are generic.

Accordingly, applicants submit that the rejection is overcome and respectfully request reconsideration and withdrawal of the restriction requirement.

Rejections under 35 U.S.C. § 112

Claims 1-18 are rejected under 35 U.S.C. §112, first paragraph, as containing subject matter not described so as to enable one skilled in the art to make and/or use the invention. The office action states that "a drain region having a trench with first and second sides" and "a first region in the drain region, having a second conductivity type and a second charge density balancing the first charge density" are not supported in the specification. In particular, the office action states that there is no support for the above limitations being in the drain region. Applicants respectfully traverse the rejection.

ONS00181
09/802,726

Claim 1, as amended, recites a semiconductor component that includes, among other things, a drain region (e.g., 105, 713) having a trench (e.g., 326) and a portion (e.g., 713) having a first conductivity type (e.g., n-type) and a first charge density. A first region (e.g., 755) has a second conductivity type (e.g., p-type) and a second charge density balancing the first charge density.

The trench is formed in portion 713 of semiconductor layer 110, which serves as part of the drain region of the device, as disclosed in paragraph [0047] on page 13, lines 21-23 of the specification. Portion 713, and therefore the drain region, also has the trench, first conductivity type and first charge density, as indicated at least on page 13, lines 19-24 of the specification. Moreover, the trench is shown at least in figures 7-10 and 12 as being in portion 713, i.e., the drain region.

Claim 1 is amended to remove the limitation of the first region, e.g., region 755, being in the drain region. The first region has the second conductivity type and second charge density.

Therefore, applicants believe the recited claim limitations of amended claim 1 are supported in the specification as indicated, and that the rejection is overcome. Claims 2-18 depend from amended claim 1, and should be allowable as well.

-9-

ONS00181
09/802,726

Conclusion

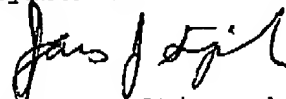
Applicants respectfully request entry of this amendment and early and favorable acceptance of this application.

No fees are believed due by filing this Amendment. However, the Commissioner is authorized to charge any fees due or credit any overpayment to Deposit Account 501086.

If there are matters that can be discussed by telephone to further the prosecution of this application, applicants invite the examiner to call the undersigned attorney at the examiner's convenience.

Respectfully submitted,

Peyman Hadizad et al.



James J. Stipanuk
Attorney for Applicant(s)
Reg. No. 44,358
Tel. (602) 244-4885

ON Semiconductor
Law Dept./MD A700
P.O. Box 62890
Phoenix, AZ 85082-2890

Date:

June 13, 2003

FAX RECEIVED

JUN 13 2003

TECHNOLOGY CENTER 2800